



Figure 2. Photograph of a web that resembles a complicated "tent" (Autumn, 1991).

PHILOSOPHICAL ESSAY

MAGNIFICENT MIRACLE: THE VIRGIN CONCEPTION OF JESUS CHRIST*

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Abstract

This study is an attempt to understand from a cytogenetic perspective the physical aspects of the means God might have used to accomplish the miracle of the virgin conception of Jesus Christ. It distinguishes three separate but related factors pertinent to the physical aspects of this miracle: (1) Man's fall and inheritance of original sin, (2) The second-law-of-thermodynamics curse of death and (3) The precise gametogenic definition of the seed of the woman. Although this study postulates a physical component to our sin nature and its inheritance, it does not propose, or even imply, that our sin nature is purely genetic or merely physical. From these considerations, a possible cytogenetic mechanism is described whereby the physical aspects of the virgin birth of Jesus Christ could have contributed to His being both fully God and fully man, sinless, yet able to die as the perfect Sacrifice to save us from our sins.

Introduction

When God has been pleased to preserve the mystery of His great miracles (Deuteronomy 29:29) by not revealing the details of the means by which He accomplished them, scientific speculation is a fair pre-occupation of His children reverently attempting to think His thoughts after Him. Such is the case with the virgin conception of Jesus Christ. Several explana-

tions have been suggested over the years by theologians and natural scientists in the Roman Catholic and Protestant Churches as to how our Savior was born fully God, yet fully man, sinless, yet a member of our sinful human race, incorruptible, yet able to die as the perfect Sacrifice for our sins. A few of these explanations are briefly compared in the Appendix.

System Poison

This paper is simply another proposal to explain the physical aspects of this miracle, based on what is known presently in the sciences of genetics, cytology and embryology as they pertain to the relatively recent

*Editor's note: This article is controversial in that it explores a possible physical mechanism for the virgin birth of Christ. At the same time, Dr. Anderson provides a valuable summary of thoughts on this much-discussed topic.

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speculation that “Adam’s partaking of the forbidden fruit not only poisoned his own body but affected his seed also, and through his seed was transmitted to the human race our mortal condition” (Custance, 1980, p. 118). The idea that the forbidden fruit might have had a mortalizing poison in it prompted the thought that, instead, such a poison, or some other process in God’s Providence, could have been genetically mutagenic, specifically capable of producing an inheritable physical component to the sin nature with which all of us human beings are born; while physical death, the consummation of entropy, was simply a part of God’s second-law-of-thermodynamics curse on all of creation for Adam’s, and hence our, sins (Genesis 3:17 in light of Romans 8:18-23). The imputation of sin so that it is inherent in each human soul at conception (Psalm 51:5) becomes more understandable if one considers the possibility of an associated genetic transmission of some physical component of sin.

Incidentally, this possibility has a bearing on the theological considerations of Creationism vs Traducianism. Protestant discussions of the controversy over whether each human soul is a new creation or formed by natural generation center on the question of the “inheritance” of sin (Berkouwer, 1962, p. 283) and relate it to Christ’s own justification and sanctification (Shedd, 1874-1890, pp. 81-83). Louis Berkhof (1939, 1941, p. 238) noted that certain Scholastics, who were not Traducianists, tried to explain inherent sin as being “passed on through the body, which in turn contaminates the soul as soon as it comes in contact with it.” Although the present paper partially agrees with the first part of that statement, it does not agree that original sin is exclusively transmitted by physical reproduction so as to contaminate an otherwise righteous soul on contact. It clarifies the dangers of taking that position, and it is acceptable to either the Creationist or Traducianist concept of the origin of the human soul.

Theology

Without digressing into the argument over whether man is holistic, dichotomous or trichotomous, it is clear in Scripture that man was created with two major parts to his person: the tangible or physical part (body) and intangible or spiritual part (soul/spirit, subject to being divided asunder by the word of God according to Hebrews 4:12). Scripture also teaches that Adam’s fall was total, such that his initial sin produced or became a sin nature (also known as original or inherent sin) in both these parts, physical as well as spiritual. Since Adam was both the natural and federal head of the human race (Hodge, 1871, pp. 196-198 and Boyce, 1887, pp. 220-221), our fall in Adam was also total so that we, too, have a physical as well as spiritual component to our inherent sin.

This teaching was clearly articulated by the predominantly Presbyterian Divines who prepared the Westminster Confession of Faith in 1643-1647 and the Baptist theologians who prepared the Philadelphia Confession of Faith in 1689. Chapter VI, paragraph 2 of the former states: “By this sin they fell from their original righteousness and communion with God, and so became dead in sin, and *wholly defiled in all the faculties and parts of soul and body.*” (emphasis added) Chapter VI, paragraph 2 of the latter states:

Our first parents by this sin fell from their original righteousness and communion with God, and we in them, whereby death came upon all: all becoming dead in sin and *wholly defiled in all the faculties and parts of soul and body* (emphasis added).

In the preceding century, John Calvin (1554, p. 95), commenting on Genesis 1:26, pointed out that sin has infected us both spiritually and physically. He describes man in the image of God, perfect before and deformed after the fall, as follows:

Thus the chief seat of the Divine image was in his mind and heart, where it was eminent: yet was there no part of him in which some scintillations of it did not shine forth. For there was an attempering in the several parts of the soul, which corresponded with their various offices. In the mind perfect intelligence flourished and reigned, uprightness attended as its companion, and all the senses were prepared and molded for due obedience to reason; *and in the body there was a suitable correspondence with this internal order.* But now, although some obscure lineaments of that image are found remaining in us; yet are they so vitiated and maimed, that they may truly be said to be destroyed. For besides the deformity which everywhere appears unsightly, this evil also is added, *that no part is free from the infection of sin.* (emphasis added)

Elsewhere he defines original sin as follows:

Original sin, then, may be defined as hereditary corruption and depravity of our nature, extending to all the parts of the soul, which first makes us obnoxious to the wrath of God, and then produces in us works which in Scripture are termed works of the flesh (Calvin, 1559, p. 217).

This definition may fall short of recognizing a physical component of sin, but, only two pages later, he also states the following:

Here I only wish briefly to observe, that the whole man, from the crown of the head to the sole of the foot, is so deluged, as it were, that no part remains exempt from sin, and, therefore, everything which proceeds from him is imputed as sin (Calvin, 1559, p. 219).

This position agrees with that of Luther and Augustine that human nature has been both physically and morally corrupted (Hodge, 1879, pp. 97, 101).

The apostle Paul bemoans this deplorable condition in himself in Romans 7. Especially in verses 14, 17, 18, 20, 23 and 25 he points out that sin is also carnal, of the flesh, a law in his members, thus categorizing it as having a physical as well as spiritual component motivationally expressed. Granting that flesh in these passages can refer to the old sin nature in our intangible beings, it is, nevertheless, more consistent with the context of verse 23 for it to refer to a sin nature in our tangible bodies. According to Strong (1890), the word translated as members here comes from the Greek word *μελος* (*melos*) which means a limb as part of the body. Thus, verse 23 implies that the law of sin is in the tangible body:

But I see another law in my members (i.e., parts of my body), warring against the law of my mind (i.e., a facet of my soul/spirit), and bringing me into captivity to the law of sin which is in my members (i.e., parts of my body).

Because the soul/spirit, which includes the mind, is so intimately related to the body, sin must affect our whole being. Paul's frustration with this physical as well as spiritual component of his sin nature helps us to understand the conflict that rages between the new and the old natures within ourselves. Although Christians have been spiritually regenerated, they will not be delivered from a sin nature until their bodies are also redeemed in glory (Romans 8:23).

Transmission of Sin Nature

This doctrine of original or inherent sin infecting us both physically and spiritually does not, however, demonstrate the manner in which it has been passed down from Adam and Eve throughout all generations of mankind. Three possibilities come to mind: (1) The sin nature is transmitted purely spiritually by imputation and secondarily infects the body; (2) The sin nature is transmitted purely physically by genetic inheritance and secondarily infects the soul/spirit; (3) The sin nature is transmitted both intangibly through the soul/spirit by imputation from Adam as our federal head and tangibly through the physical cells by genetic inheritance from Adam as our natural head. All three possibilities provide credible exegeses of Psalm 51:5, "Behold, I was shapen in iniquity, and in sin did my mother conceive me."

The first possibility is, perhaps, the most widely held view of Christian theologians and scientists alike who have written that the sin nature is not to be found in genes or chromosomes, but that it flows from one generation to another only by way of moral and spiritual transmission, not a material sequence (Gromacki, 1974, p. 118; Lester, 1980, p. 40). On the other hand, A. H. Strong (1950, p. 596), also a Christian theologian, has stated:

In recognizing the guilt of race-sin, we are to bear in mind: . . . that the doctrine of original sin is only the ethical interpretation of biological facts—the facts of heredity and of universal congenital ills, which demand an ethical ground and explanation; . . .

This view would support either the second or third of the above noted possibilities.

However, the second possibility is unacceptable because it promotes the Manichean belief of the third to seventh centuries that, between the spiritual and material worlds, it is the natural world which is sinful, contrary to the orthodox doctrine that material substance in itself is neither good nor evil (Payne, 1991, p. 7). This error, derived from Zoroastrian mythology and ancient Greek thought, was believed by various heretical Gnostic sects (Johnson, 1991, p. 117) and led to the ascetic tendency of the early church (Hodge, 1879, p. 47).

The third possibility that inherent sin is transmitted both spiritually and physically readily supports the aforementioned position of Augustine, Luther and

Calvin as to the totality of the infection of original sin in the soul/spirit and body of each human being. A physical as well as spiritual transmission of inherent sin, therefore, reinforces the case against the heresy of Pelagianism which denies original sin altogether with the assertion that, in respect to his moral nature, every man is born in precisely the same condition in which Adam was created (Hodge, 1879, p. 97). It also explains the above noted observation of A. H. Strong without risking the Gnostic heresies promoted by the second possibility. Furthermore, it provides, along with the following cytogenetic study, a reasonable apologetic in witnessing to intellects who question the scientific validity of Christian doctrine. One such intellect is Sir Gavin DeBeer, former Director of the British Natural History Museum, a renowned authority on embryology and one of the most dogmatic of all the neo-Darwinists (Johnson, 1991, p. 172). The fact that the things of the Spirit of God were foolishness to this natural man (1 Corinthians 2:14) is evident by his expression of the following observation:

One wonders if Pauline theologians realize that the doctrine of original sin involves the inheritance of an acquired character, for only genes can be inherited and, by the nature of the case, neither Adam nor Eve when they first appeared on the scene possessed the character they are alleged to have transmitted to all their descendants (DeBeer, 1962, p. 268).

For this observation, the ability to explain the totality of Adam's fall and, hence, of original sin and its inheritance in us makes it possible to "be ready always to give an answer to every man that asketh you a reason of the hope that is in you with meekness and fear (1 Peter 3:15).

For these reasons this paper accepts the third possibility as being most satisfactory. Guided by this concept of the physical as well as spiritual presence and transmission of original sin, I consider the only part of our person that natural science can examine: our tangible being. A study of the accompanying figures will examine: (1) The sinless, immortal nature of Adam's and Eve's physical bodies as originally created; (2) Two physical consequences of the fall of Adam and Eve: (a) acquisition of the physical component of inherent sin and (b) subjection to physical death as part of God's second-law-of-thermodynamics curse on all creation; (3) The passage of the physical component of inherent sin throughout all human generations by virtue of the continuity of the germ plasm; (4) The gametogenic mechanism which provides a precise, scientific definition not only of the seed of the woman but also of the seed of the man; (5) The cytogenetic mechanism God could have designed to accomplish the miracle of Jesus Christ's virgin conception, that virgin conception so necessary for His power to save us from sin and death.

From the scientific viewpoint Eve's construction (Figure 1) is in keeping with genetic concepts of XY-XX chromosomal sex differentiation, and from the scriptural viewpoint it is in accord with the Hebrew word used, בָּנָה (banah) rather than בָּרָא (bara'), meaning that she was built from Adam's rib rather than created anew. It is also worth noting here that

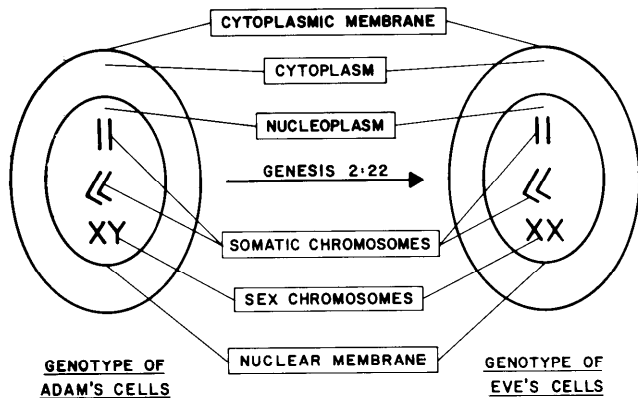


Figure 1. The Construction of Eve from Adam's Rib

No new genetic material need have been created in building Eve's female genotype (XX) from Adam's genotype (XY); only elimination of Adam's Y chromosome would have been necessary. Somatic chromosomes are diagramed to represent the total diploid number (44) arranged as 22 homologous pairs divided into 2 groups. One group (| |) would be comprised of an undefined number (N) of pairs from 1 to 22; the other group (<<) would be comprised of the remaining number (22-N) of pairs from 21 to 0. Representing the pre-fall state, these diagrams illustrate neither sin nor degeneration.

Eve did not come from Adam's seed (the cytoplasmic stages of his reproductive cells, i.e., germ plasm) but from his side (a part of his body cells, i.e., somatoplasm) so that flesh developing from her seed as de-

scribed later in the paper is not even remotely traceable to his seed.

Figure 2 illustrates possible physical changes that would explain two consequences of Adam's fall, i.e., inherent, original sin and bodily degeneration unto death, from a scientific perspective. These changes include: (1) Genetic mutation to produce an inheritable physical component of our sin nature, and (2) Introduction of the entropy principle of the second law of thermodynamics to produce physical degeneration and death, beginning the reduction of our physiological function toward its present 10-25% efficiency (Guyton, 1969, p. 389), symbolized by the addition of "M" for mitochondria and "G" for Golgi apparatus as but two examples of the many, known, functioning, cytoplasmic organelles. These changes agree with Scripture as written in Genesis 2:17 and 3:17, Psalms 51:5, 102:25-27, 103:13-16, Ecclesiastes 1:2 and 14, 2:11, 11:8, and 12:8, Romans 5:12, 7:14-25 and 8: 18-23 and 1 Corinthians 15:21 and 22 to list a few verses which refer to the existence of these two factors (sin in the flesh and vexing, dying physical degeneration), miraculously introduced at the fall of Adam and Eve and to be miraculously removed at the time of physical redemption when the sons of God will be manifest (Romans 8:19, 23).

Figure 3 was adapted from Custance (1980, p. 213, Fig. 7) to illustrate the scientific concept of the con-

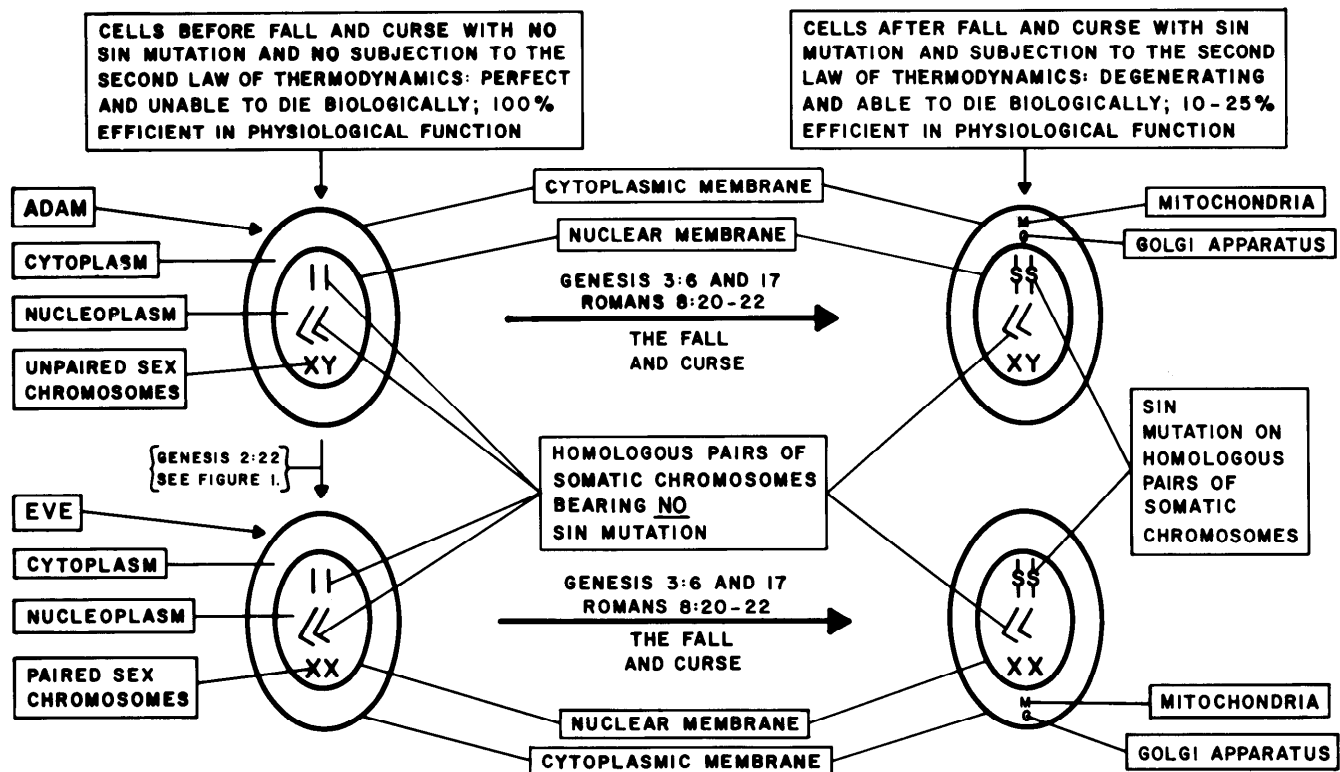


Figure 2. Acquisition of the Sin Mutation and of the Ability to Die Biologically

At the fall, the same homologous pair, or pairs, of chromosomes in all the reproductive cells (germ plasm) of Adam and Eve would have acquired the sin mutation at identical loci in order for it to have been passed on continuously throughout all generations of mankind. One, several, or all the homologous pairs of somatic and/or sex chromosomes could bear this mutation; although only somatic chromosomes are illustrated as bearing it in this figure for purposes of simplicity. Subjection to degeneration and biological death would involve not only the chromosomes but all cell structures. Also, present metabolic processes would have been instituted: previously 100% efficient physiological function would begin degenerating toward the present, only 10-25% efficiency.

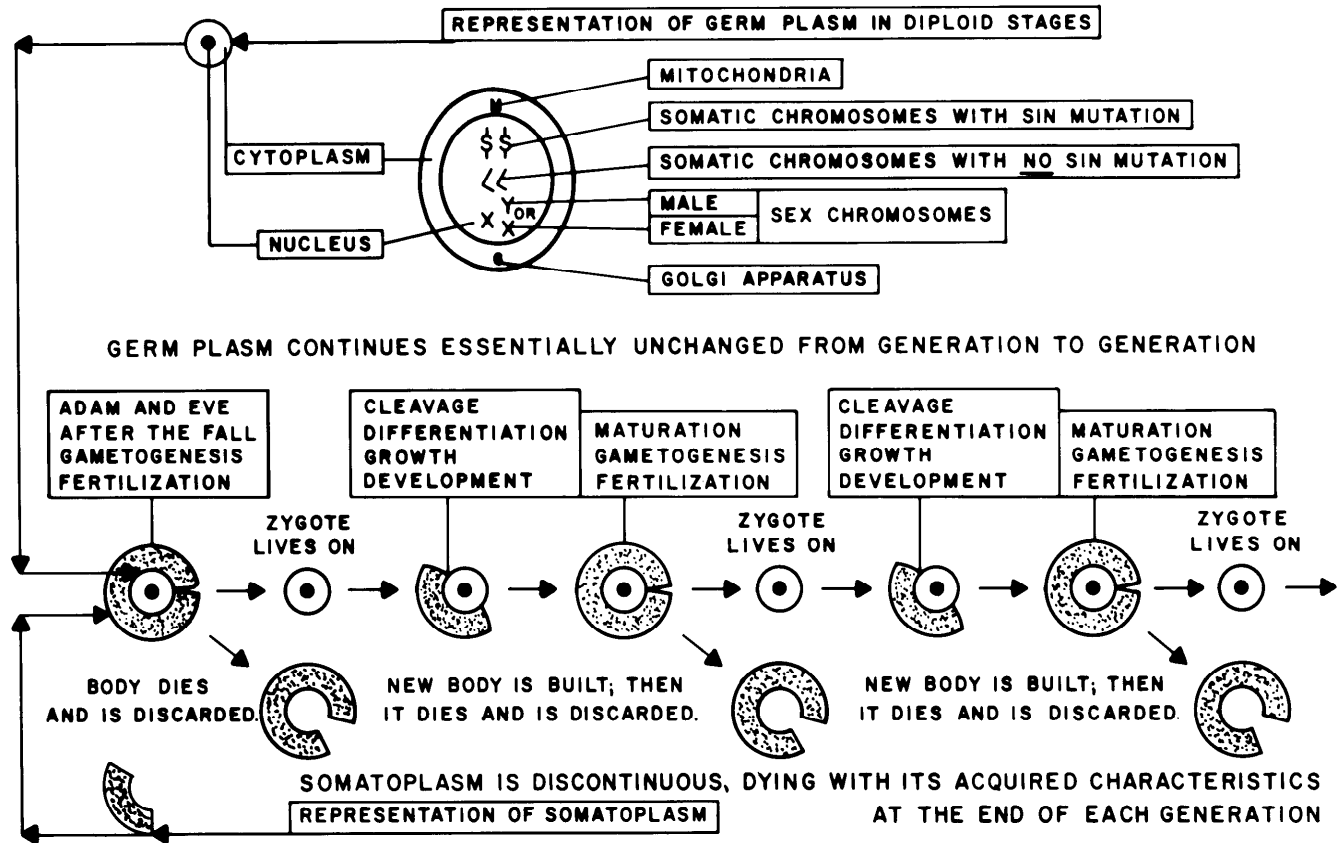


Figure 3. Continuity of the Germ Plasm

Described by August Weismann in 1893, this concept holds that reproductive cells (germ plasm) live on, essentially unchanged from generation to generation (despite continual accumulation of degenerative changes which may be imperceptible with each generation); while the bodies they build (somatoplasm) die at the end of each generation and carry whatever characteristics they acquired in their lifetimes to their graves. The sin mutation, as part of the germ plasm since the fall of Adam and Eve, would thus be passed down throughout all generations of mankind; while the sin-racked somatoplasm it would produce would die and be discarded with each generation.

tinuity of the germ plasm as described by August Weismann a century ago and confirmed ever since by experimental evidence. Scripturally, it explains the inheritance of the physical component of sin, traceable throughout all generations back to Adam and Eve, and it demonstrates how Eve “was the mother of all living” in keeping with Genesis 3:20. It therefore makes the term, “her seed,” in Genesis 3:15 refer to the physical offspring not only of Eve in the promise of this decree, but also of Mary in the fulfillment of this decree. It also demonstrates that this continuity of the germ plasm must be maintained for that special offspring, Jesus Christ, to qualify as a *bona fide* member of the human race.

Virgin Birth

Figures 4 and 5 now illustrate the genetic mechanics by which Jesus Christ, the only begotten of the Father (John 1:14b), could have been born as a *bona fide* member of the human race with the ability to die physically yet without any sin whatsoever. They are in accord with scientific data in the fields of genetics and experimental embryology.

Figure 4 clarifies the definition of the term, “seed of the woman,” precisely demonstrating that it is human egg cytoplasm, traceable *through females only* all the way back to Eve. (It is interesting to realize that all of

us have received our physical flesh only from our mothers; while our fathers have contributed only nuclear materials which influence that flesh.) This illustration conforms to descriptions in embryology textbooks. (Arey, 1965, p. 58 compared with Figures 15, 20, 22, 24, 25 and 26 on pp. 30, 35, 37, 40, 41 and 42 respectively). It also conforms to what Eve would have understood by the term, “her seed,” in Genesis 3:15; and it supports the evangelical view that Jesus Christ received His *human nature* directly from Mary while she was prevented from passing on her *sin nature* because of the ministry of the Holy Spirit, as illustrated in Figure 5. This prevention would have been made possible in the physical sense because the gene(s) carrying the physical component of Mary’s sin nature would have been contained only in the nucleus of her egg; while the organelles carrying the physical component of her human nature would have been contained separately in the cytoplasm of her egg. Therefore, removing the physical component of her sin nature from the nucleus would remove its effects on the physical component of her human nature in the cytoplasm, i.e., the seed of the woman.

Also, the seed of the man is demonstrated precisely to be the human Y chromosome, traceable *through males only* all the way back to Adam, in keeping with textbooks of genetics and embryology. (Arey, 1965,

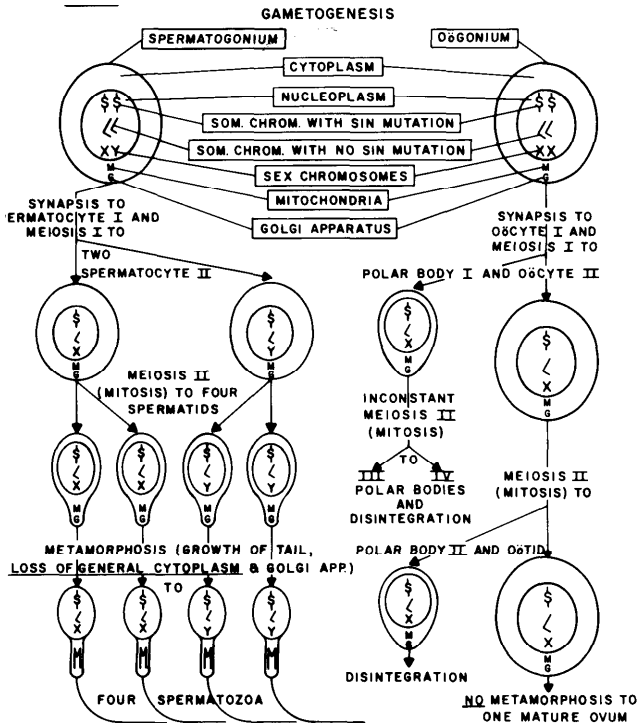


Figure 4. The Three Distinct Portions of Germ Plasm Resulting from Gametogenesis

- (1) The seed of the woman is human-egg cytoplasm: since all human spermatozoa contain no general cytoplasm, all human, general cytoplasm, since Eve, has been handed down from her via female germ plasm only.
- (2) The seed of the man is human-Y chromosomes: since all human ova contain no Y chromosome, all human-Y chromosomes have been handed down from Adam via male germ plasm only.
- (3) The seed of both the man and the woman is all the remaining gamete structures: since human spermatozoa and ova both contain cytoplasmic membranes and organelles, nuclear membranes, nucleoplasm, X chromosomes (in 50% of spermatozoa), and somatic chromosomes (both with and without the postulated sin mutation), all these structures have been handed down from Adam and Eve via both male and female germ plasm.

p. 58 compared with Figures 15, 20, 22, 24, 25 and 26 on pp. 30, 35, 37, 40, 41 and 42 respectively). It was this seed of the man that, according to Genesis 3:15, would have been excluded from the body of God's only begotten Son. (It is interesting to realize, also, that no normal woman has the seed of the man, the Y chromosome, in her physical composition; yet all women have the rest of Adam's genetic heredity in them by virtue of all the other chromosomes passed down through the generations from him.)

Here is the point of the great creative miracle involved in the virgin conception of Jesus Christ, as prophesied in Jeremiah 31:22b "... for the LORD hath created a new thing in the earth, A woman shall compass a man," as supported by Hebrews 10:5, "... but a body hast thou prepared for me:" and as illustrated in Figure 5, which demonstrates the removal of the physical component of the sin nature by God the Holy Spirit and the introduction of God's own, perfectly created Y chromosome in place of Adam's by God the Father.

An exegesis of Jeremiah 31:22b should be helpful here. As noted above, it reads, "... for the LORD hath created a new thing in the earth, A woman shall

compass a man." The Hebrew word for woman here is נִקְבָּה (neqabah), derived from נָקַב (naqab), meaning to puncture, pierce or strike through with more or less violence. It appears in only one other place in the Old Testament, Leviticus 15:33, where, being used in connection with menstruation, male and female genital discharges and sexual intercourse, it refers to a woman in the sexual, physically female sense. Now, the Hebrew word for man in this passage is גִּבּוֹר (geber), meaning a great, strong, prevailing, valiant, mighty man, warrior or hero. He is to be encompassed, i.e., physically surrounded (סָבַב, cabab in Hebrew) by a woman in the physically female sense, not simply embraced or surrounded by the arms or thoughts of a woman in a general or spiritual sense. Although this encompassment was to occur at a time future to Jeremiah's prophecy, God had already created (בָּרָא, bara' in Hebrew, denoting a miraculous, ex nihilo or first-time creation) a new thing (חֲדָשׁ, cadash in Hebrew) to accomplish this extraordinary event. Many mighty men, e.g., Samson, King David, etc. had already been encompassed by females in the physically female sense, both cytogenetically by the maternal egg cytoplasm (i.e., seed of the woman) of their zygotes and gestationally by their mothers' wombs; therefore a very special new thing had to have been created in order for this event to be so remarkable. This new thing might well have been nothing less than God's own perfect Y chromosome, created before Jeremiah's time, for the only begotten Son of God to be born in human flesh of a virgin at a time future to that of Jeremiah, sinless but subject to the death-dealing entropy principal of the second law of thermodynamics, made possible through the miracle of the virgin conception and birth prophesied in Isaiah 7:14b, as confirmed by Matthew 1:22, 23, "... Behold a virgin shall conceive, and bear a Son, and shall call His name Immanuel (God with us)." Thus, "... the Word was made flesh, and dwelt among us ..." (John 1:14a), for He "... was made in the likeness of men:" (Philippians 2:7c), and "when the fullness of the time was come, God sent forth his Son, made of a woman, made under the law ..." (Galatians 4:4).

In keeping with this concept, another Christian man of science has written:

Then how could Jesus have been born without a human father? God could have created a special Y sperm, with twenty-three perfect chromosomes, to fertilize one of Mary's eggs. Since I accept God as the Creator of the universe and each 'kind' of life, I have no difficulty believing that He used this method or some other means beyond His usual law of reproduction to accomplish this biological miracle (Lester, 1980, pp. 27-28).

This is a creative miracle superior to the original creation of Adam, for it enabled Jesus Christ to be identified not only with the original creation of the human race, traced directly from Eve all the way down to Mary, but also with a new creation, the perfect Y chromosome of God, Himself, thus making clear how he could be both fully God and fully man at the same time.

Figure 5 is also in keeping with the observation of experimental embryology that an egg's nucleus or por-

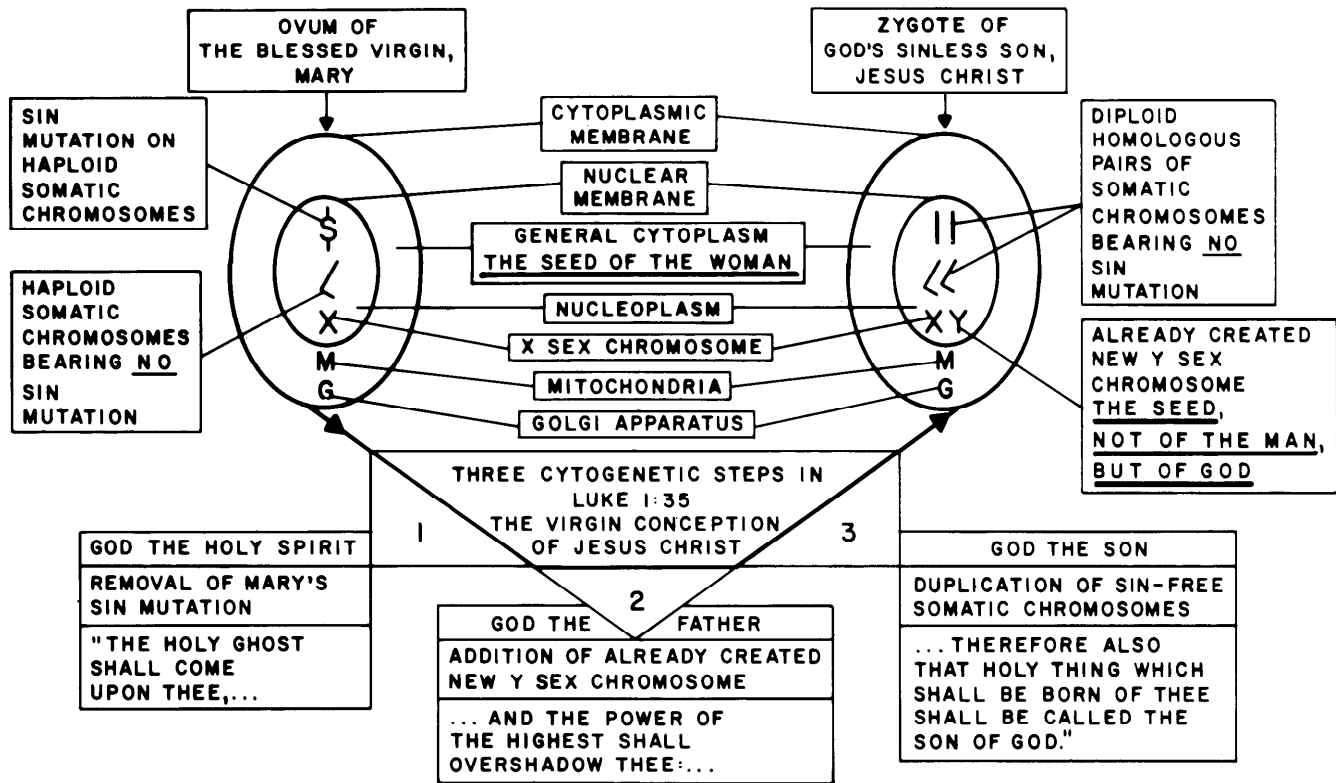


Figure 5. The Virgin Conception of Jesus Christ

The miracle described in Luke 1:35 would involve three steps: (1) Removal of Mary's sin mutation from her egg; (2) Addition of the already created, new, Y-sex chromosome; (3) Duplication of the completely sin-free, somatic chromosomes.

Note the resulting genotype identity of Jesus Christ to that in Figures 1 and 3 of unfallen Adam and, thus, the genetic accuracy of the reference to the first Adam and the last Adam in 1 Corinthians 15:45. The characteristic of being subject to biological death, in keeping with the second law of thermodynamics, would have been carried over from Mary's ovum to the zygote of Jesus Christ in order for Him to be fully man as well as fully God.

tions of its genetic material can be removed and replaced (Arey, 1965, pp. 168, 170) and even with modern proposals of genetic scientists concerning the correction of genetic mutational defects at the chromosomal level. It also agrees with Scripture, demonstrating the beautiful trinitarian nature of the virgin conception of Jesus Christ to be found in Luke 1:35, again in keeping with the character of God as the perfect Designer.

Whether God replaced the entire nucleus of Mary's egg or simply corrected all the homologously paired sin mutations therein before inserting His own perfect Y chromosome and duplicating 22 somatic chromosomes to match Mary's is really not important. What is important is the fact that, *through the ministry of the Holy Spirit, the physical component of sin was removed from the nucleus and its effects thus removed from the cytoplasm of Mary's egg* so that the Seed of the woman would be born without sin in His body yet still be subject to physical death and the other aging and injurious conditions of the entropy principal of the second law of thermodynamics: thus, He was able to be "in all points tempted like as we are, yet without sin." (Hebrews 4:15). These conditions enabled Jesus Christ to be the only perfect Sacrifice, without spot or blemish, acceptable to God physically as well as spiritually to atone for our sins as foreshadowed by the blood sacrifices throughout the Old Testament. It

must be remembered, however, that His death involved far more than the physical factors to which the discussion of natural science in this paper is limited. His spiritual death when he was forsaken by His Father on the cross of Calvary (Matthew 27:46 and Mark 15:34 as prophesied in Psalm 22:1) was a far greater sacrifice than any of us can totally comprehend.

Death

This study clearly demonstrates the importance of biblical creation to the gospel of Jesus Christ, for it conforms to the Pauline ascription of the cause of death and corruption to Adam's sin (Romans 5:12, 8:18-23 and 1 Corinthians 15:21, 22 relative to Genesis 2:17 and 3:17-19). Evolution, on the other hand, teaches that death has always been a natural process in operation long before man appeared on the scene, a view that conforms to the Socinian heresy (completing the aforementioned Pelagian denial of original sin) that man was created naturally mortal and would have died had he sinned or not (Hodge, 1879, pp. 96, 106). In an effort to avoid this heresy, theistic evolutionists and progressive creationists have adopted the view that, although physical death and animal predation existed for billions of years throughout the world before Adam's original sin (Bartz, 1991, p. 2), it is only spiritual death (i.e., separation from God) that resulted from Adam's sin. Thus they explain away Romans

5:12 and 1 Corinthians 15:21, 22, while ignoring Romans 8:18-23 and Genesis 3:17. However, the eminent theologian Geerhardus Vos (1948, p. 50) has noted that the Genesis creation account gives no suggestion to the effect that the death of animals occurred before the fall of man.

Such evolutionary wresting of the Scriptures (2 Peter 3:16) undermines the gospel of Jesus Christ and the faith of those who see through the inconsistencies of these weak explanations. If physical death had been a part of the original creation, then God could not have seen everything that He had made by the end of the sixth day and declared it to have been very good as He did in Genesis 1:31. The death sentence that God promised in Genesis 2:17 and carried out in Genesis 3:17 as a consequence of Adam's sin had to refer to physical as well as spiritual death, or else it was unnecessary for Jesus Christ to be the virgin-born, sinless Sacrifice described in the Bible and in this paper as being able to die physically as well as spiritually to deliver us from sin and death and give us everlasting life. Or more simply stated in other words: if physical death were a part of God's original creation rather than a part of the penalty for Adam's sin, then Jesus Christ did not have to suffer and die physically for our salvation—but He did!

Also, the corollary would be true: if our sin nature were *merely* spiritual or transmitted *purely* by imputation, then Jesus Christ would have had to suffer and die only spiritually for our salvation—but He did not! He suffered and died *both* spiritually and physically because sin and death have both the spiritual and physical dimensions we have been studying. Thanks be to God, His Word is sure: in His creation, in His Scripture, and in His incarnation, death and resurrection. Our thanks and praises are His forevermore, and our joyful duty is to proclaim this marvelous gospel of His grace!

Appendix

The Roman Catholic dogma of the Immaculate Conception declares that Mary was sinless when her mother conceived her so she, herself, would be sinless in order to be able to conceive and bear the sinless Son of God. This assertion is made clear in a quotation from the December 8, 1854 decree of Pope Pius IX, published in the January, 1855, papal bull, *Ineffabilis Deus*, proclaiming:

. . . that the most Blessed Virgin Mary was preserved from all stain of original sin in the first instant of her Conception (i.e., when she, herself, was conceived within her mother), by a singular grace and privilege of Almighty God, in consideration of the merits of Jesus Christ, Savior of the human race . . . (O'Conner, 1958, p. 312).

Charles Chiniquy (1886, pp. 403-409) describes the controversy surrounding the adoption of the dogma of the Immaculate Conception and some of its consequences, Alexander Hislop (1916, pp. 125-126, 263-269) describes some pre-Christian, mythological origins of this dogma, and Loraine Boettner (1962, pp. 158-162) discusses it from the perspective of the Reformed Faith.

Protestant theologians such as J. Gresham Machen (1930) and Robert G. Gromacki (1974) have written

extensive studies of the virgin birth of Jesus Christ. Before them, James Orr (1907, pp. 197-201) affirmed the necessity of a physical as well as spiritual miracle for our Saviour to be totally sinless. However, none of these excellent theological studies examined the biological facts necessary to explain how the physical aspect of that miracle might have been accomplished.

In attempting to clarify how the absence of a human father could have provided for the physical miracle necessary for Jesus' total sinlessness, the medical doctor, M. R. DeHann (1943, pp. 14-15, 24-25, 30-37) suggested the hypothesis that sin is passed down through the generations by way of Adam's blood, adduced to be contributed to each offspring by only the male seed.

Arthur C. Custance (1980, pp. 118-122, 143, 222-225) proposed the possibility that the forbidden fruit, perhaps the grape, contained a poison, perhaps an alcohol, causing death to affect the bodies of both Adam and Eve, and the sperm of Adam but *not* the eggs of Eve, so that all human eggs would be immortal when fertilized, except for the condition that death would be carried into each egg by each fertilizing sperm. He does not clearly distinguish the curse of death from the inheritance of sin. Dr. Custance's book (1980) is a collection of some of his *Doorway Papers*, written over the preceding 40 years, extensively studying the theology and natural science related to the virgin birth of Jesus Christ.

Albert S. Anderson (1972, pp. 1, 2, 6, 7 and 1974, pp. 71-84) presented the formative stages of the hypothesis, offered in this paper. Henry M. Morris proposed the possibility that God directly formed a body for Jesus Christ (1974, p. 59; 1976, pp. 3, 4; 1980, p. 20), "formed neither of the seed of the man nor the egg of the woman, but grown from a unique Seed planted in the woman's body by God Himself" (1975, p. iii).

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BOOK REVIEWS

The Encyclopedia of Evolution by Richard Milner. 1990. Facts on File. New York. 481 pages. \$20.00 paperback.

Reviewed by Don B. DeYoung*

Author Milner grew up with Stephen Jay Gould in Queens, New York City. Their junior high pictures are included on the back cover! In a Foreword to the book, Gould thanks Milner for "uniqueness and idiosyncrasy . . . details in the sublime and coordinated sense (p. v-vi)." I must agree; the book contains short, fascinating essays from *A* (Abang, an orang-utan tool user) to *Z* (Zoonomia, an evolution book written by Charles Darwin's grandfather).

The book promotes evolution, of course, but it also uncovers some bizarre and uncomplimentary history of this belief system. Here is a sampling of the content of the essays: Henry Ward Beecher, a liberal preacher in the 1870s who popularized theistic evolution, was later discredited by a 1990s-style sex scandal (p. 37). In 1906 a pygmy, Ota Benga, was kept in the monkey house of the Bronx Zoo as a "lower" evolutionary cousin (p. 41). Andrew Carnegie thought that his cut-throat business decisions helped society to evolve (p. 73). Some early "bone hunters," seeking evolutionary evidence, feuded and exchanged gunfire (p. 94). Charles Darwin expressed an abysmal understanding of Scripture: At age 53, he was astonished to learn that the 4004 B.C. creation date printed in his Bible was not a part of original Scripture itself (p. 175)! Horse evolution, "saddled with errors," is now hidden from public view as an outdated embarrassment (p. 222). Alfred Russell Wallace, co-founder of evolutionary theory, was deeply involved with mediums and ghost-spirits (p. 407).

The book contains hundreds of photos and century-old cartoons. They show that many current issues in the creation-evolution debate have been elegantly argued in the distant past. Are you interested in Clever Hans the talking horse (p. 85), a picture of the Cardiff Giant (p. 71), a summary of every Hollywood ape movie, or Mark Twain's encounter with Darwin in 1879? Then you would enjoy this unusual book.

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Cosmic Catastrophes by Clark R. Chapman and David Morrison. 1989. Plenum Press. New York. 302 pages. \$22.95.

Reviewed by Danny R. Faulkner*

This is a well written, popular level book on the modern acceptance of the role of catastrophes in geology. The development of uniformitarianism in geology over the past 250 years is traced from the time that catastrophism was widely held. As one would expect, the works of James Hutton and Charles Lyell figure very prominently. Once uniformitarianism became established in this century, there was much opposition to any suggestion of catastrophism, as creationists well know.

A great deal of attention is given to the re-emergence of catastrophism in the past few decades, based upon the external factor of meteoroid bombardment. The starting point was the pioneering work of Eugene Shoemaker beginning in the late fifties, in correctly identifying the Arizona meteor crater as having an impact rather than volcanic origin. This has eventually led to the discovery of numerous fossil impact features elsewhere, as well as reconsideration of the 1908 Tunguska event. During this time William Hartmann and others persuasively argued that most of the craters on the moon and on Mars are of impact origin. This view is now held by nearly everyone and has been the paradigm in interpreting the space probe photographic reconnaissance of the surfaces of Mercury and the Jovian moons.

As one would expect, this book then turns toward discussion of the Alvarez hypothesis that the dinosaurs were killed by a meteor impact. Most readers are familiar with the details: a stratospheric dust cloud that reflects enough sunlight to cause temperatures to plunge, much as suggested in the so-called nuclear winter idea popularized by Carl Sagan and others, and the rare earth abundance spike apparently found in a clay layer at the K-T boundary. Other alleged periodic mass extinctions are discussed in the context of possible astronomical periodicities, such as the bob-

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